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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,176	01/31/2002	Hideaki Shoji	218424US2PCT	6227
22850	7590	01/25/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ADDY, ANTHONY S	
			ART UNIT	PAPER NUMBER
			2681	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

10/030

## Office Action Summary

**Application No.**

10/030,176

**Applicant(s)**

SHOJI ET AL.

**Examiner**

Anthony S Addy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7 is/are allowed.
- 6) ☒ Claim(s) 8-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/10/2004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed on October 21, 2004 have been fully considered but they are not persuasive. With respect to applicants' argument that "Ying fails to teach a resonator placed in a position close to a dipole antenna when the cover is closed" by arguing that "Ying merely mentions the presence of a grounded signal generator and that in a real-world application, the signal generator represents the radio circuitry in the mobile phone" examiner respectfully disagrees and maintains that Ying meets the claimed limitation of "a resonator installed in said casing, wherein said resonator is placed in a position close to said dipole antenna when said cover is closed." Examiner reiterates that the resonator is inherent in Ying, because Ying teaches a dipole antenna 60, comprising a first larger branch 62 as well as a second smaller branch 64 (see col. 5, lines 16-19 and Fig. 6) and the larger branch resonates in the GSM band, and the smaller branch 64 operates in the DCS and/or PCS band (see col. 5, lines 25-27). Ying further teaches the larger frame portion is resonant as a quarterwave antenna at the GSM band (900 MHz), and the small linear portion is resonant as a quarterwave antenna at the DCS and/or PCS band (1800-1900MHz). According to Ying the flip antenna has a more uniform radiation pattern and shows the return-loss performance of the flip antenna in Fig. 8 and the flip antenna appears to have a broad bandwidth. Examiner further reiterates that since the dipole antenna in Ying is in the flip of the phone and the antenna resonates between several frequencies (see col. 5, lines 41-58) it is inherent that

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the antenna will be close to the resonator when the cover is closed, because Ying's portable phone is miniature in size (see Figures 4-7).

With respect to applicants' argument that "Ying fails to teach an open/close detection means" examiner respectfully disagrees and maintains that Ying meets the claimed limitation of "open-close detection means for detecting the opening/closing of said cover", since Ying teaches that the antenna may operate when the flip is opened or closed in different frequency bands (see col. 4, lines 24-31), therefore it is inherent that there is an open/close detection means in Ying to detect which frequency band to operate in depending on the position of the cover. Ying further teaches that testings as regards radiation pattern in talk position, i.e. when the flip is folded out, have been carried out (see paragraph 5, lines 62-67), therefore based on this teaching by Ying it is inherent that there is an open/close detection means in Ying to detect when the phone is in its talk position, i.e. when the flip is folded out. Therefore based on the above inherent teaching of Ying it is proper to combine Ying with Dent, since Dent is cited solely for matching filter networks and switches (see col. 4, lines 13-28 and Fig. 1; where matching networks 22 & 23 and switches 24 & 25 are shown) that switches between different modes of operation when transmitting different modulated carriers (see col. 3, lines 23-25) and since the open/close detection means is inherent in Ying.

In view of the above, the 35 U.S.C. 102(e) rejections using Ying and the 35 U.S.C. 103(a) rejections using Ying and Dent with regard to claims 14-17 are proper and are maintained as repeated below. The rejections are made FINAL.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 8 and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by **Ying et al., U.S. Patent Number 6,307,511, (hereinafter Ying)**.

Regarding claim 8, Ying discloses a portable radio comprising: a casing (see col. 3, line 34 and Fig. 1; where an apparatus housing 12 is shown); a cover attached to said casing so as to be freely opened and closed (see col. 3, line 34 and Fig. 1; where a flip 14 pivotally mounted is shown); a dipole antenna attached to said cover (see col. 5, lines 14-16 and Fig. 6; where a dipole antenna 60 is shown in the flip 14); power supply means for supplying power to said dipole antenna (see col. 3, lines 51-54). Ying, further teaches a dipole antenna 60, comprising a first larger branch 62 as well as a second smaller branch 64 (see col. 5, lines 16-19 and Fig. 6). The larger branch resonates in the GSM band, and the smaller branch 64 operates in the DCS and/or PCS band (see col. 5, lines 25-27). The resonator is therefore inherent, since for the antenna to resonate there must be a resonator near the antenna that enables it to resonate between different bands based on whether the cover is open or closed.

Regarding claim 11, Ying discloses all the limitations of claim 8. In addition, Ying teaches a dipole antenna extended in a direction orthogonal to a length direction of casing (see col. 5, lines 16-22).

Regarding claim 12, Ying discloses all the limitations of claim 8. In addition, Ying teaches a dipole antenna with a top end that is bent (see col. 5,

lines 30-31 and Fig. 7; where a smaller portion 74 of the printed antenna pattern is given a meander shape).

Regarding claim 13, Ying discloses all the limitations of claim 8. In addition, Ying teaches a dipole antenna with a top end that is bent into a meandering shape (see col. 5, lines 30-31 and Fig.7).

***Claim Rejections - 35 USC § 103***

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ying et al., U.S. Patent Number 6,307,511, (hereinafter Ying)** as applied to claim 8 above, and further in view of **Vannatta et al., U.S. Patent Number 6,043,786, (hereinafter Vanatta)**.

Regarding claims 9 and 10, Ying teaches a portable radio (see Fig. 2; where a portable electronic communication device is shown). Ying does not teach a resonator comprising a quarter wavelength resonator with one end being short circuited, the other end being opened.

Vannatta, however, discloses a half wavelength resonator in a dielectric material, layered over a quarter wavelength or half wavelength slot in a metal surface. At a certain resonant frequency  $f_2$ , the resonator is magnetically coupled to the slot and a virtual electric short is achieved across the slot (see col. 4, lines 7-12).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the portable radio of Ying to include the quarter and half wavelength resonators, for the benefit of the antenna being

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operative in the lower and higher frequency bands when the flip is closed or opened.

5. Claims 14 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ying et al., U.S. Patent Number 6,307,511, (hereinafter Ying)** in view of **Dent, U.S. Patent Number 5,423,074 (hereinafter Dent)**.

Regarding claims 14, and 15-17, Ying teaches a portable radio comprising: a casing (see col. 3, line 34 and Fig. 1; where an apparatus housing 12 is shown); a cover attached to said casing so as to be freely opened and closed (see col. 3, line 34 and Fig. 1; where a flip 14 pivotally mounted is shown); a dipole antenna attached to said cover (see col. 5, lines 14-16 and Fig. 6; where a dipole antenna 60 is shown in the flip 14); power supply means for supplying power to said dipole antenna (see col. 3, lines 51-54); open-close detection means for detecting the opening/closing of said cover (see col. 4, lines 24-30 and Fig. 2; where by means of portions 42 and 44 shown, the antenna may operate when the flip is opened or closed). Ying further teaches a dipole antenna extended in a direction orthogonal to a length direction of casing (see col. 5, lines 16-22), a dipole antenna with a top end that is bent (see col. 5, lines 30-31 and Fig. 7; where a smaller portion 74 of the printed antenna pattern is given a meander shape), a dipole antenna with a top end that is bent into a meandering shape (see col. 5, lines 30-31 and Fig. 7). Ying, however fails to explicitly teach a first and second matching circuits; a first switch which, based upon the result of detection by the open-close detection means, makes a switchover between said first and second matching circuits and said power supply means; and a second

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switch which, based upon the result of detection by the open-close detection means, makes a switchover between the first and second matching circuits and the dipole antenna.

Dent discloses a matching filter networks and switches (see col. 4, lines 13-28 and Fig. 1; where matching networks 22 & 23 and switches 24 & 25 are shown) that switches between different modes of operation when transmitting different modulated carriers (see col. 3, lines 23-25). The open-close detection of the cover could be interpreted by one of ordinary skill in the art as operating between two modes, therefore one could apply the matching networks and switches to perform the open-close detection of the cover.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the matching filter networks and the switches, as taught by Dent, for the portable radio of Ying for the purpose of switching between the dipole antenna and power supply means, based on the operating mode of the communication terminal to control the power efficiency of the terminal as taught by Dent.

***Allowable Subject Matter***

6. Claims 2-7 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: With respect to claim 2, Ying teaches a radio circuitry means supplying power to the antenna depending on whether the flip is closed or opened.



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The instant invention with respect to claim 2, teaches power supply means comprising parallel two-line type power supply lines, said parallel two line type power supply lines being excited in reversed phases in a state where said cover is open, said parallel two-line type power supply lines being in the same phase in a state where said cover is closed. These novel features in combination with the other limitations of claim 2 are not taught nor fairly suggested by Ying nor any of the prior art of record; alone or in combination.

With respect to claim 3, Ying teaches a power supply means (see col. 3, lines 52-55).

The instant invention with respect to claim 3, teaches power supply means comprises a coaxial line, said coaxial line being provided with an external conductor and an inner conductor, with said external conductor and said casing being short-circuited, and excites said inner conductor in a state where cover is open, and excites said external conductor in a state where cover is closed.

These novel features in combination with the other limitations of claim 3 are not taught nor fairly suggested by Ying nor any of the prior art of record, alone or in combination.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Claxton, U.S. Patent Number 6,434,371 discloses selecting flip phone operating mode using flip position.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

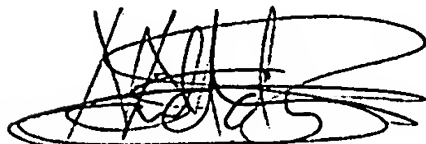
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S Addy whose telephone number is 703-305-8487. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on 703-308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

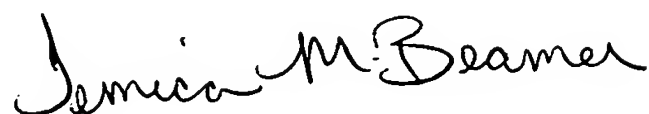
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Anthony S. Addy', with a large, stylized flourish at the end.

Anthony S. Addy  
January 19, 2005

A handwritten signature in black ink, appearing to read 'Jemica M. Beamer', written in a cursive style.